Message

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Sent: 8/20/2020 11:59:48 PM
To: Robinson, Derek J CIV USN NAVFAC SW SAN CA (USA) [derek.j.robinson1@navy.mil]
BCC: Chesnutt, John [Chesnutt.John@epa.gov]
Subject: Additional information on EPA's building RG evaluation

Derek –

I sent out our letter on the building remediation goals earlier this afternoon. This email describes the two sets of PRGs developed with the BPRG calculator mentioned in the letter (one set is for fixed contamination; the other for removable).

The first table below provides the PRGs applicable to fixed contamination calculated with the modified version of the BPRG calculator.

	RGs for Fixed Contamination - Residential Exposure	
	Current HPNS RGs *(dpm/ 100 cm2)*	**Modified RGs at 1 x 10-4** *(dpm/ 100 cm2)*
Am-241	100	*no change*
Cs-137	5000	3650
Co-60	5000	2500
Eu-152	5000	2350
Eu-154	5000	2900
H-3	5000	
Pu-239	100	*no change*
Ra-226	100	*no change*
Sr-90	1000	*no change*
Th-232	36.5	*no change*
U-235	488	*no change*

These PRGs reflect the following assumptions:

- Residential exposure scenario
- 1 x 10^{-4} incremental cancer risk
- Contamination present only on the building floor and lower six feet of wall
- A 10 foot by 10 foot x 10 foot room size, concrete surface, and the most conservative receptor position (corner of the room)
- Retesting would need to confirm that the upper walls and ceilings are not contaminated

Six of the modified BPRGs (Am-241, Pu-239, Ra-226, Sr-90, Th-232, U-235) are similar to or higher than the building RGs in the HPNS RODs, indicating that the RGs are protective. Four of the current RGs (Cs-137, Co-60, Eu-152, Eu-154) would need to be reduced if the risk level is to remain below 1 x 10-4.

The second table (below) provides BPRGs for the removable fraction.

	Limits for Removable Contamination - Residential Exposure	
	Current Limits (20% of RGs, in *dpm/ 100 cm2)*	**Modified Limits at 1 x 10-4** (*dpm/ 100 cm2)*
Am-241	20	4.4
Cs-137	1000	149
Co-60	1000	126
Eu-152	1000	101
Eu-154	1000	204
H-3	1000	77,256
Pu-239	20	4.1
Ra-226	20	1.2
Sr-90	200	51
Th-232	7.3	2.4
U-235	97.6	4.7

These PRGs reflect default exposure assumptions and are the same values included in one of the Navy's October 2019 submittals. We are unable to support the changes to two of the default values included in the October 2019 BPRG submittals (hand to mouth frequency and fingertip surface area).

Please let me know if you have any questions or would like to discuss.

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